MEC-LAN-M001

Mini PCI-e 1-port 10/100/1000 Ethernet board

User's Manual

Third Edition, February 2014

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Mini PCI-e Ethernet Card

User's Manual

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1

Introduction

Overview

MEC-LAN-M001 is an Ethernet card for embedded PC. The card follows the Mini PCI-e standard which is compliant with PCI Express x 1 classification and small form factor (30×50.95 mm). This board fits in any host computer that has mini express card slots. MEC-LAN-M001 is a highly cost-effective solution to expand Gigabyte network for your computer.

Features

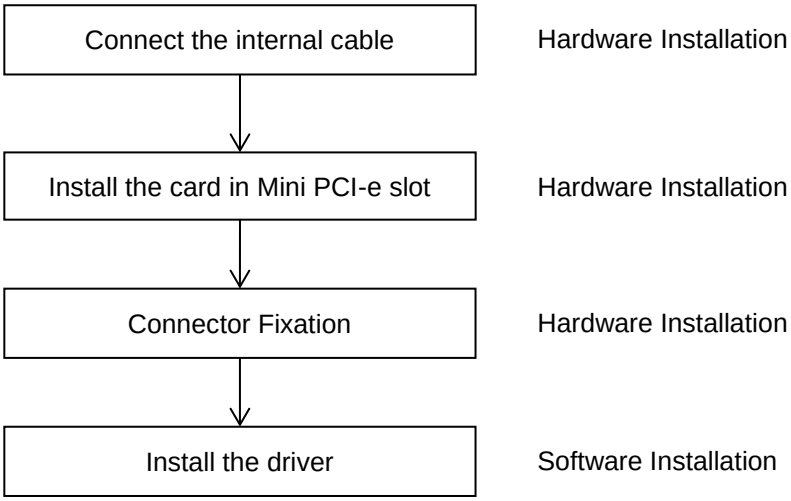
The PCI Express boards have the following outstanding features:

- Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps
- Fully compliant with PCI-Express Base Specification Rev 1.1
- Integrated 10/100/1000Mbps transceiver
- IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, and IEEE 802.3z compliant
- IEEE 802.3x Full-Duplex flow control

Installation Flowchart

Installation Flowchart of MEC-LAN-M001

The following flowchart provides a brief summary of the procedure you should follow to install the Mini PCI-e card:



Package Checklist

The following items are included in the Mini PCI Express board Package:

- Mini PCI-e Card x 1
- Daughter Board x 1
- Bracket x 1
- M2.5 Screw x 2
- 20Pin Internal Cable (30cm) x 1
- Quick Installation Guide (Printed) x 1
- Driver CD x 1

Note: *Notify your sales representative if any of the above items are missing or damaged.*

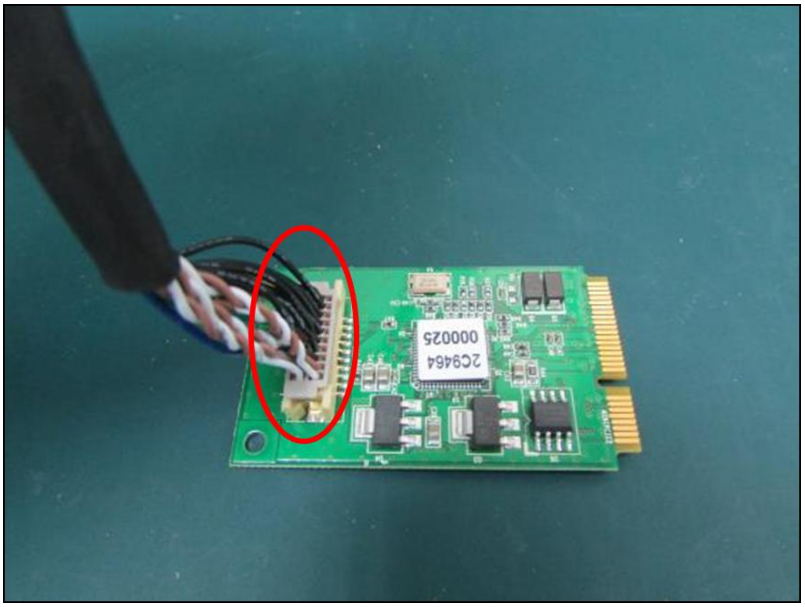
2

Hardware Installation

This chapter describes the PCI Express Series hardware installation procedure. Since the BIOS automatically assign the PCI Express board's IRQ number and I/O addresses, you must plug in the board before installing the driver.

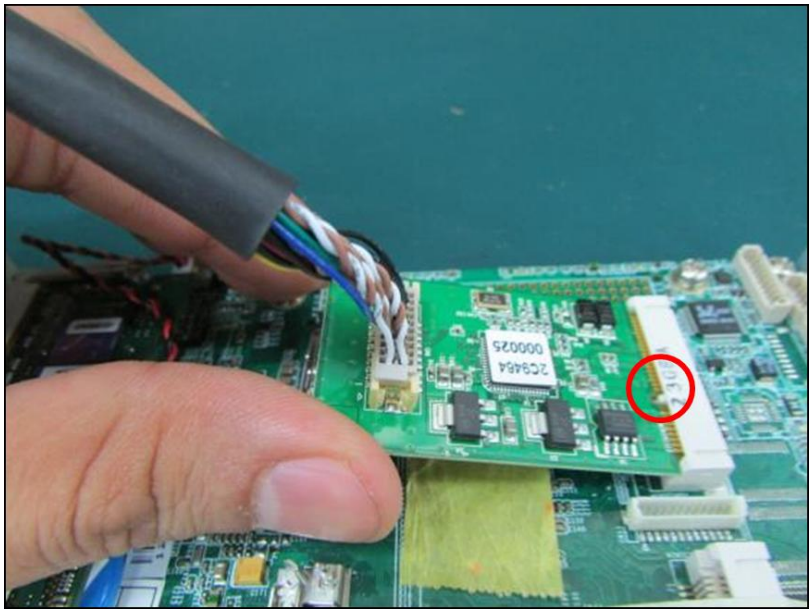
Step 1 Connect the internal cable to the card

Connect the internal cable to the card



Note	Both sides of the cable connectors are the same, it doesn't matter which side you connect

Step 2 Install the card to the Mini PCI-e slot



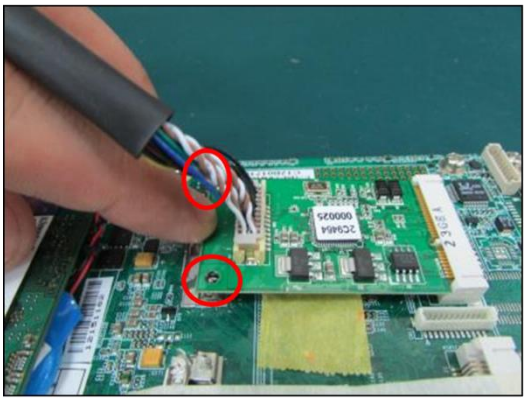
Make sure you install the card in the right position (fool-proof design)

Step 3 Fix the card on the motherboard (clip type or screw type)

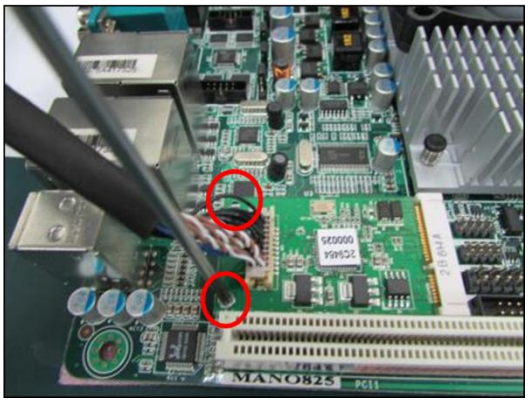
There are 2 options to fix the card. It depends on the design of the motherboard (clip or screw).

1. Clip type: make sure you press down the card and let the clips fix the card
2. Screw type: make sure you tighten up the screws to fix the card

Clip type



Screw type



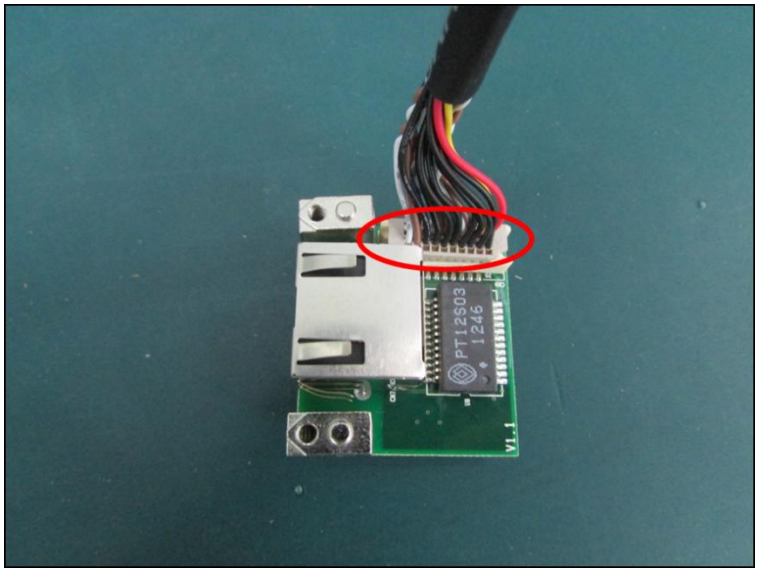
Step 4 Card installation completed

Clip type

Screw type

Step 5 Connect the cable to the daughter board

Connect other side of the cable to the daughter board



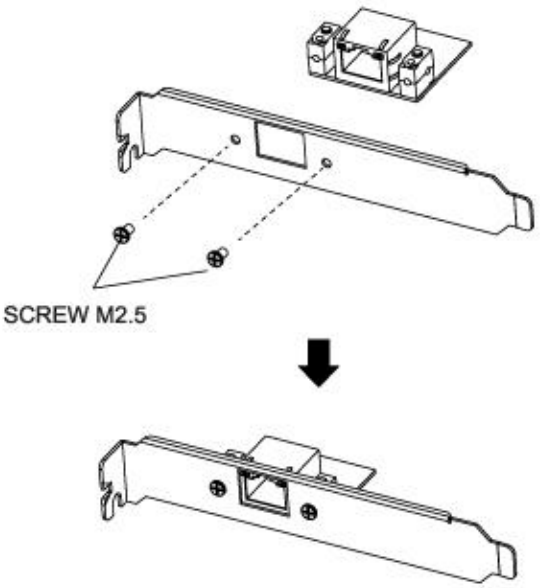
Note	Both sides of the cable connectors are the same, it doesn't matter which side you connect

Connector Fixation

MECFIX – Versatile Mounting

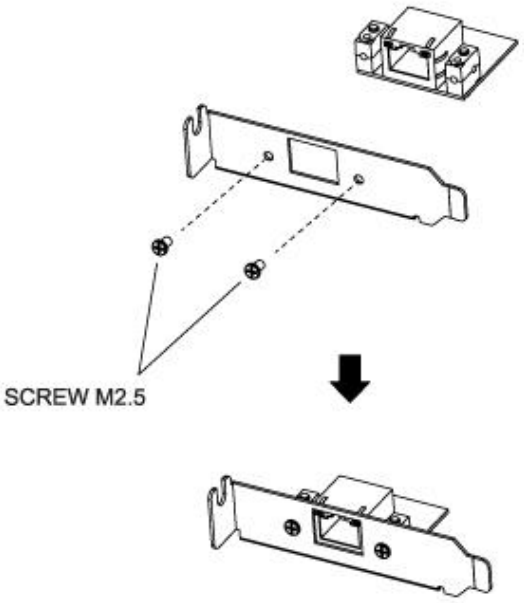
1. Standard PCI/PCIe Bracket

PCI / PCIe IO Bracket



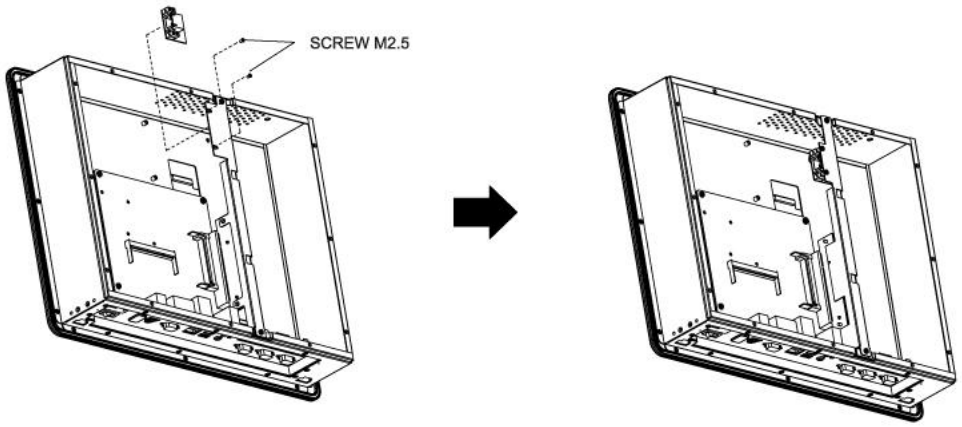
2. Low Profile PCI/PCIe Bracket

Low Profile IO Bracket

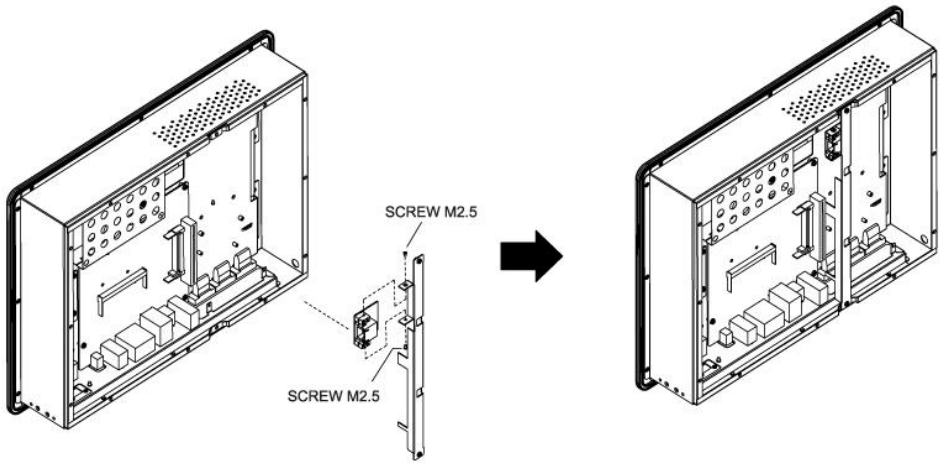


3. Internal Mounting

Upper Fixation – Indutrial System

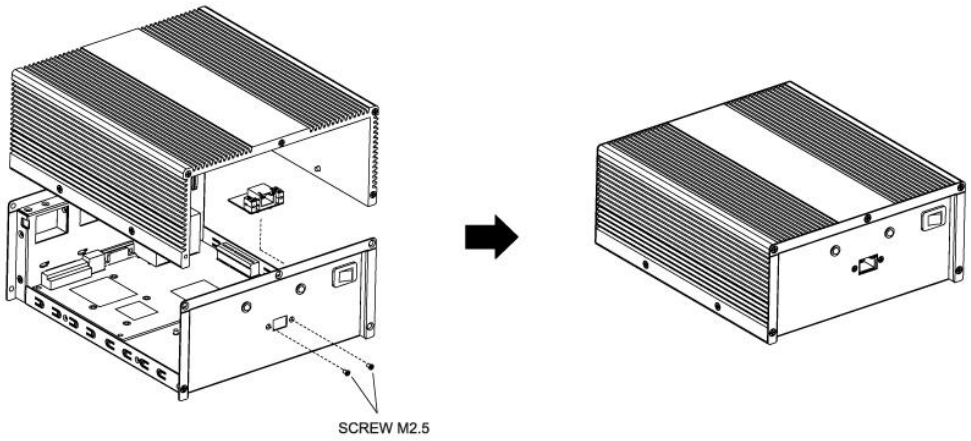


Right & Left Fixation – Indutrial System

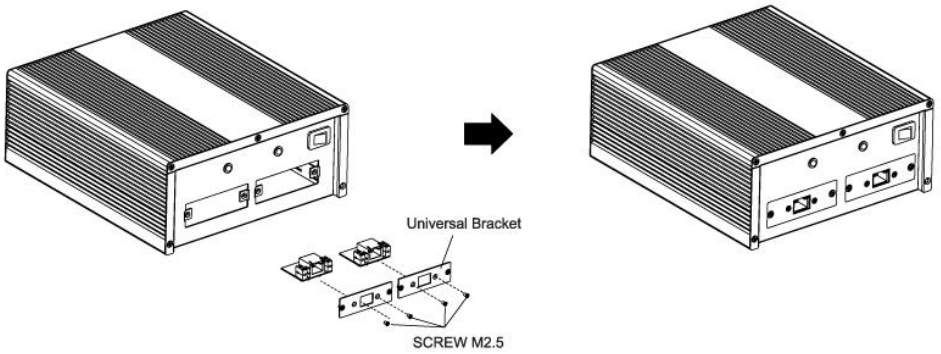


4. Customized Front / Rear Plate

Front / Rear I/O Plate



Universal Bracket

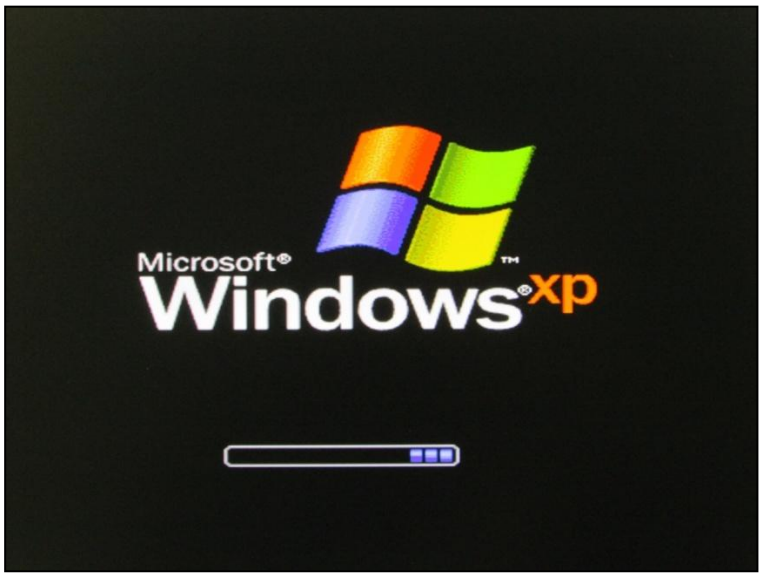


3

Software Installation

This chapter gives installation, configuration, and update/removal procedures for the driver for Win 2003, Win XP, Win Vista, Win 7, and Win 8.

Step 1	**Turn on PC and start Windows**



Note	XP OS as example

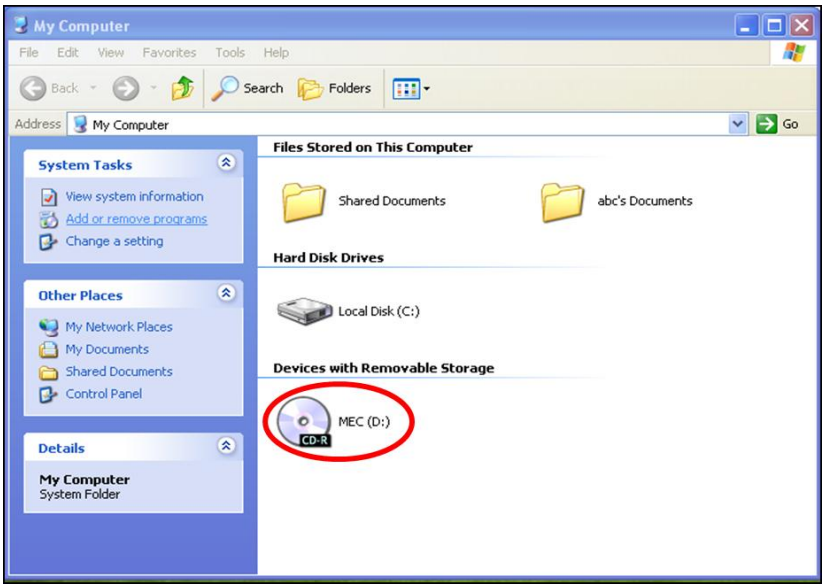
Step 2 Windows automatically detects the new device

1. If the card is installed properly, system would detect the new device and the hardware wizard would start automatically.
2. Click “Cancel” to disregard

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
2.
< Back
Next >
Cancel

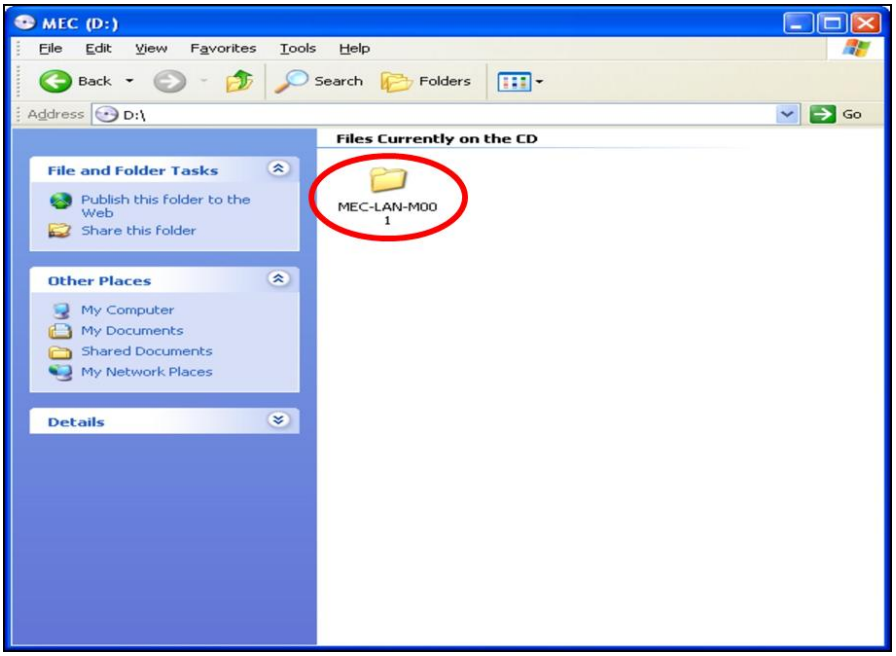
Step 3 Insert CD

Open the CD drive



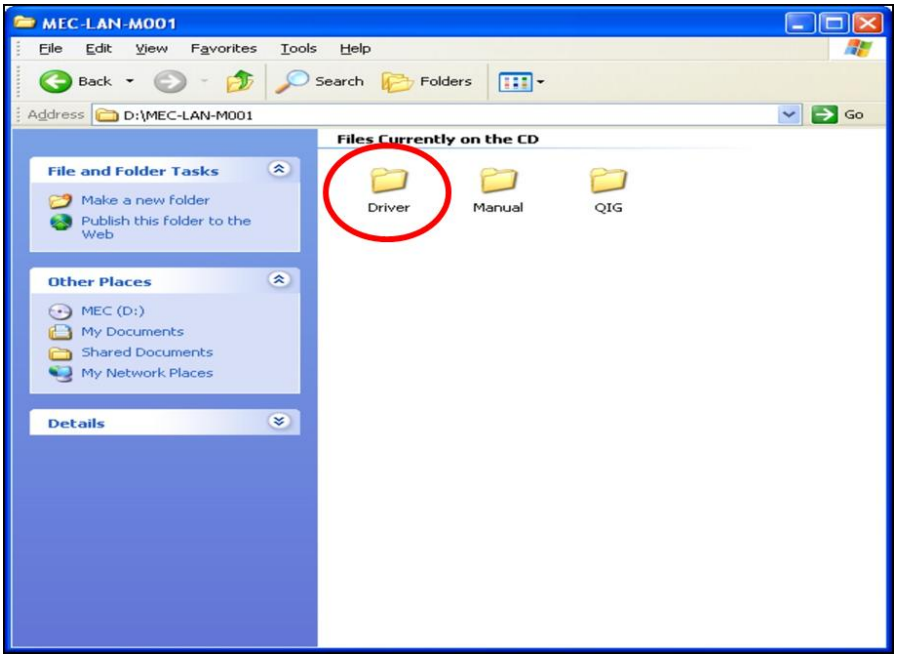
Step 4 Find the “MEC-LAN-M001” folder

Open the “MEC-LAN-M001” file folder



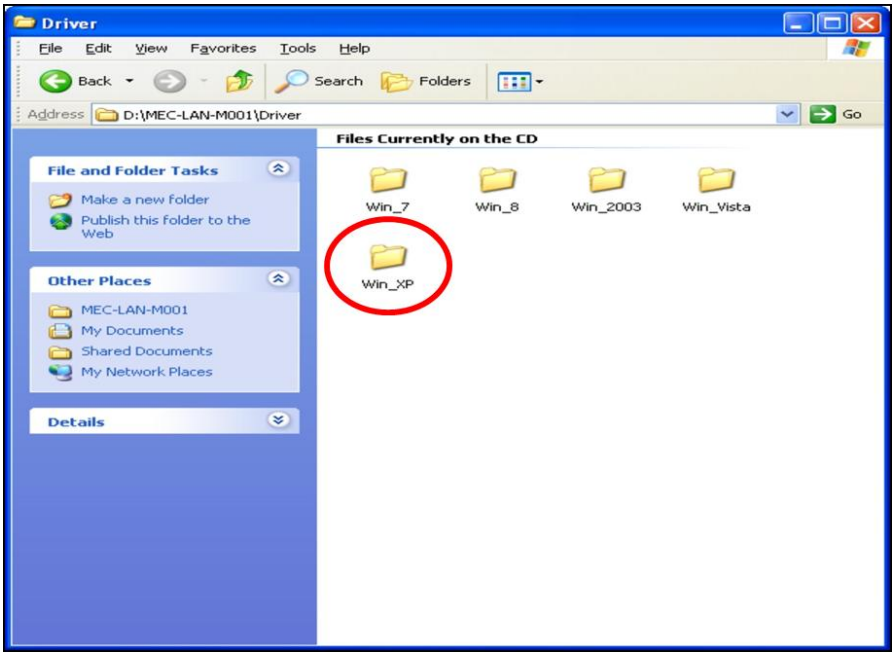
Step 5 Find the “Driver” folder

Open the “Driver” folder



Step 6 Find the appointed OS folder (Ex.: XP)

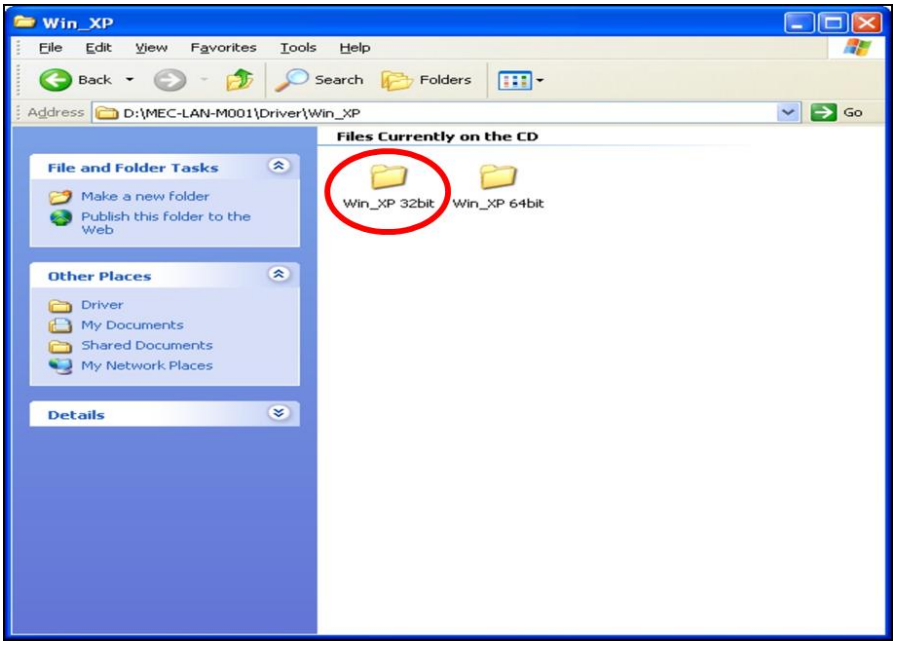
Open the appointed OS folder (We use XP as an example in the above picture)



Make sure you select the correct OS

Step 7 Find your OS version (Ex.: XP 32bit)

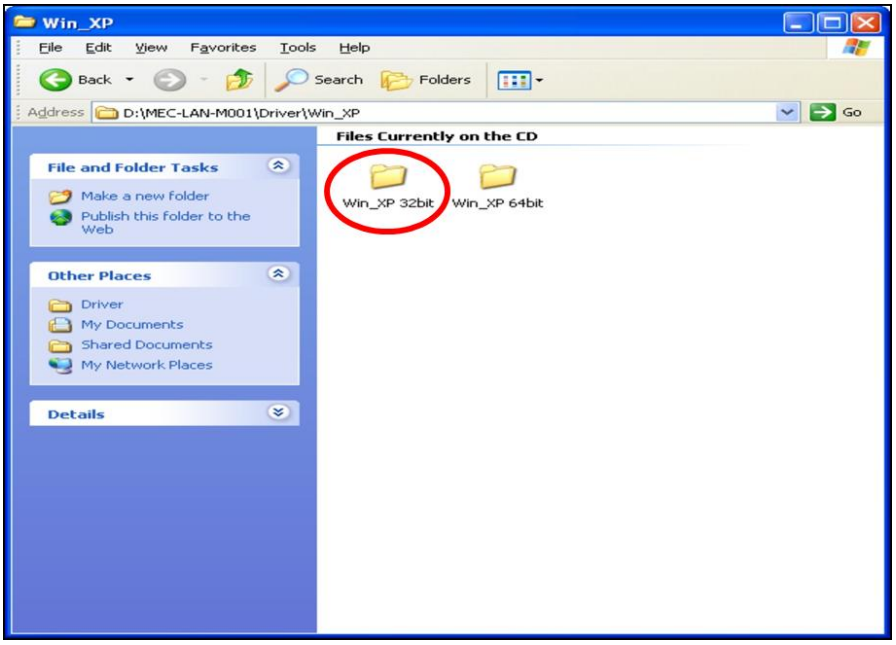
Select appoint OS folder (We use XP 32bit as an example in the above picture)



Make sure you select the correct version of the OS (Ex.: 32-bit or 64-bit)

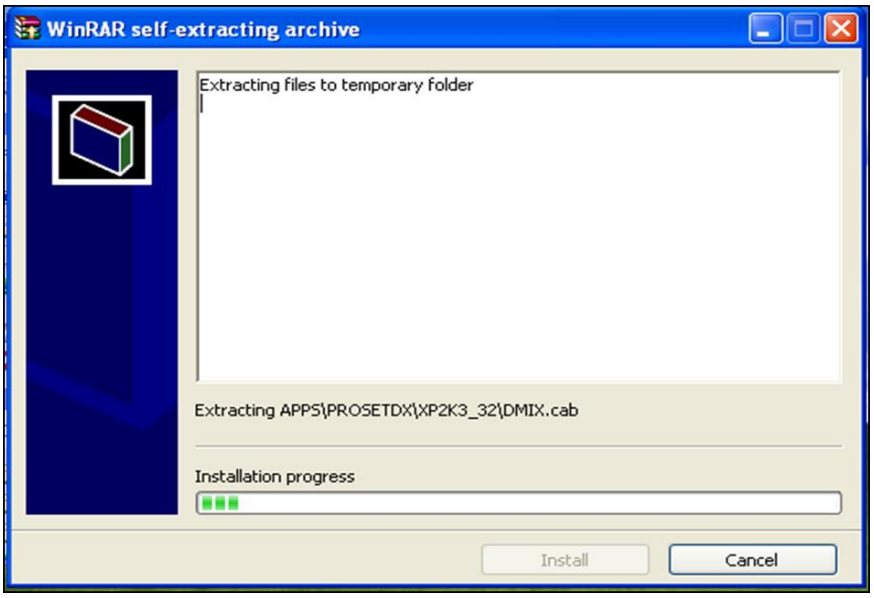
Step 8 Open and Run Driver file

1. Open the driver file
2. System starts auto run



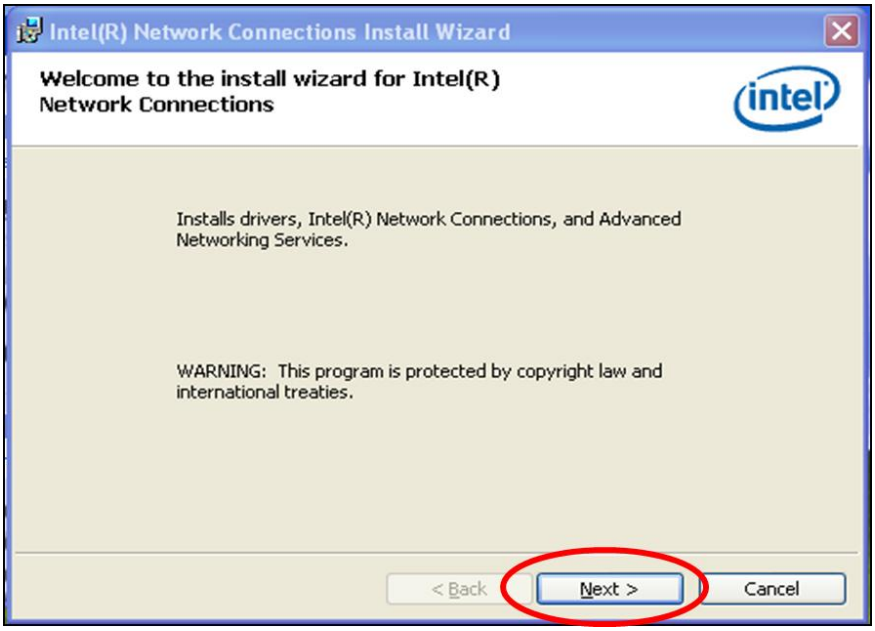
Step 9 System starts auto run

System extracts the file and starts installation automatically



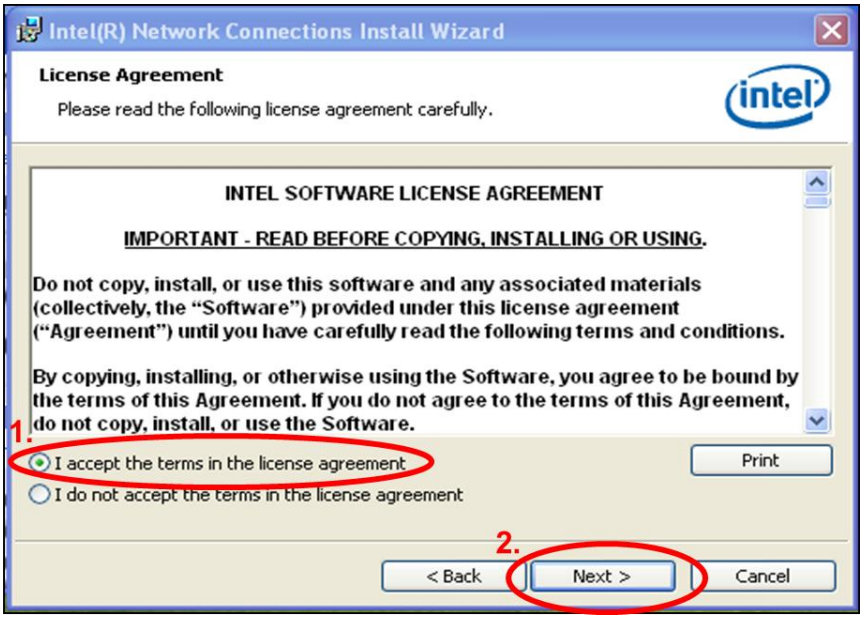
Step 10 Driver installation set up

Click “Next”


Intel(R) Network Connections Install Wizard
Welcome to the install wizard for Intel(R) Network Connections
Installs drivers, Intel(R) Network Connections, and Advanced Networking Services.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

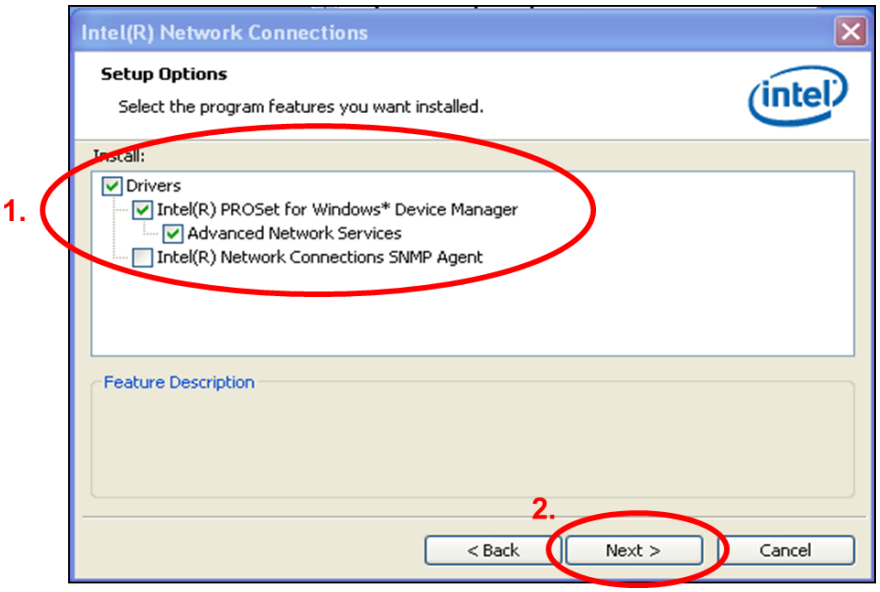
Step 11 License Agreement

1. Select “I accept the terms in the license agreement”
2. Click “Next”


Intel(R) Network Connections Install Wizard
License Agreement
Please read the following license agreement carefully.
INTEL SOFTWARE LICENSE AGREEMENT
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not copy, install, or use this software and any associated materials (collectively, the “Software”) provided under this license agreement (“Agreement”) until you have carefully read the following terms and conditions.
By copying, installing, or otherwise using the Software, you agree to be bound by the terms of this Agreement. If you do not agree to the terms of this Agreement, do not copy, install, or use the Software.
1.
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Print
2.
< Back
Next >
Cancel

Step 12 Driver setup options

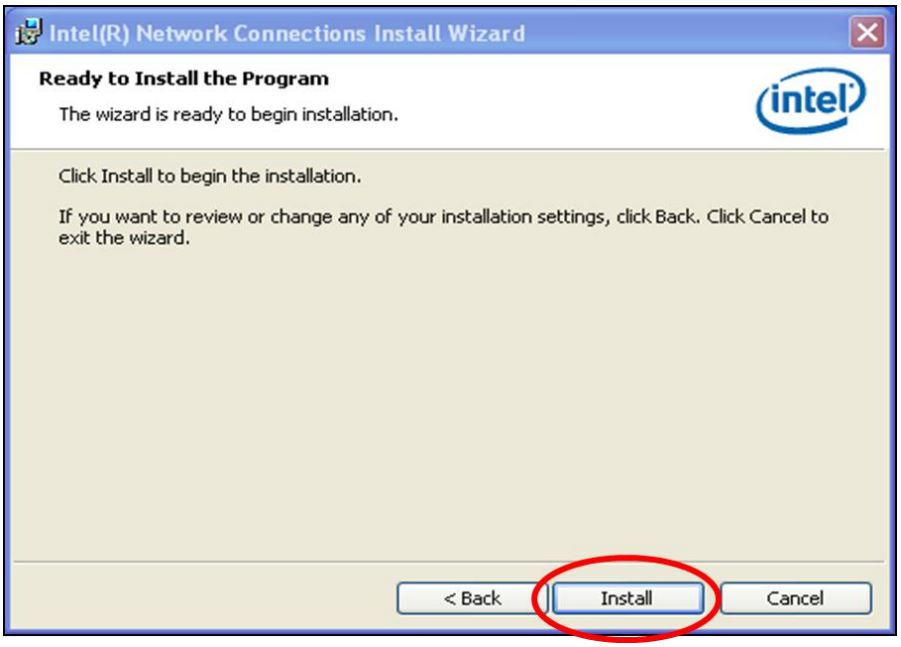
1. Select the drivers
2. Click “Next”



Note	If you are not sure which driver you want to install, keep the default setting and click “Next”.

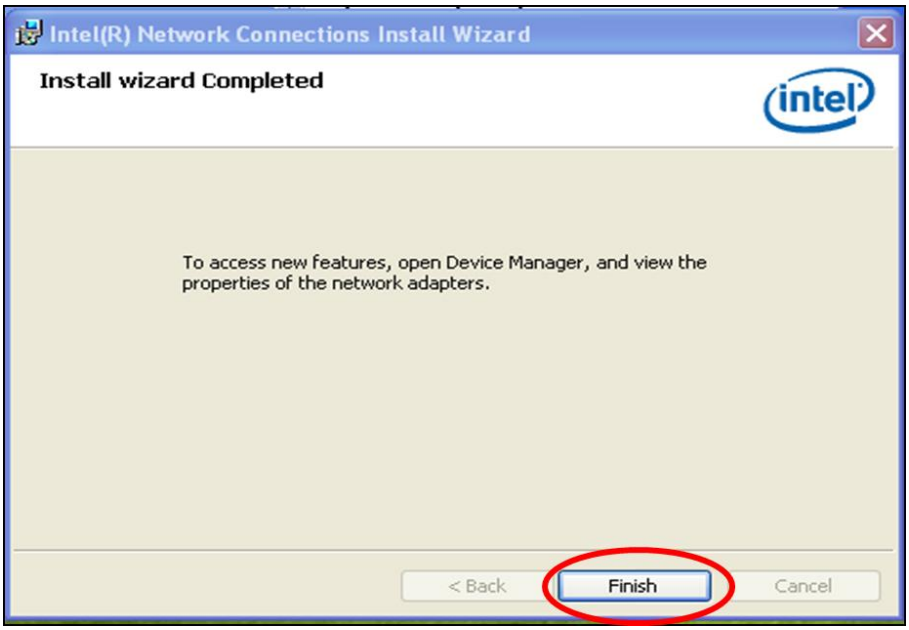
Step 13 Start driver installation

1. Click “Install”


Intel(R) Network Connections Install Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
< Back
Install
Cancel

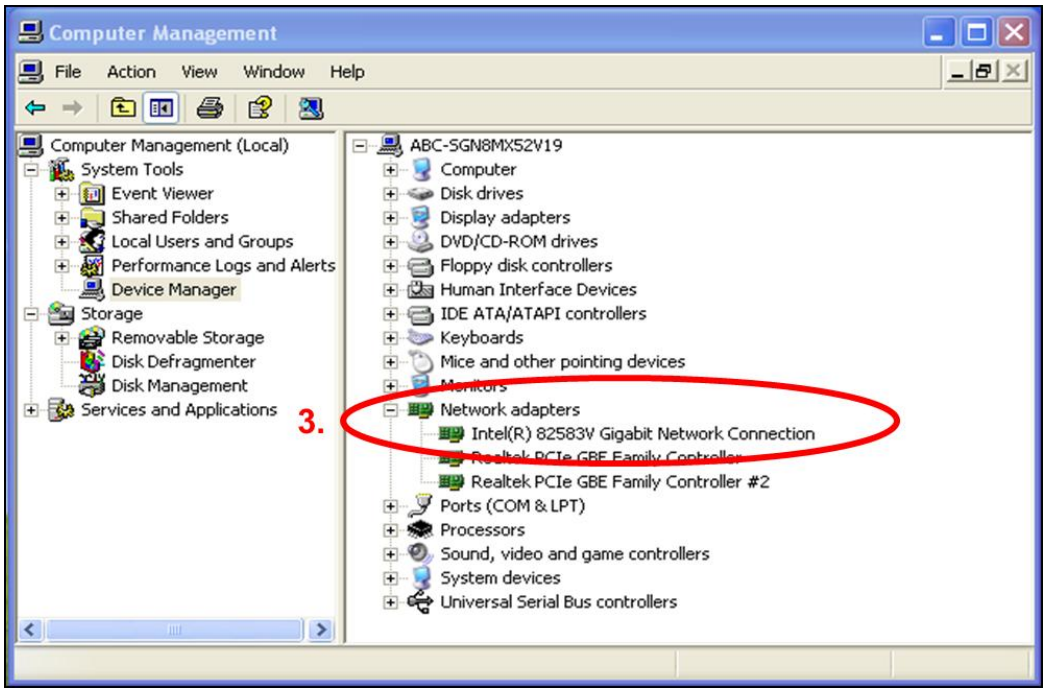
Step 14 Driver installation completed

Driver installation is completed, click “Finish”


Intel(R) Network Connections Install Wizard
Install wizard Completed
intel
To access new features, open Device Manager, and view the properties of the network adapters.
< Back
Finish
Cancel

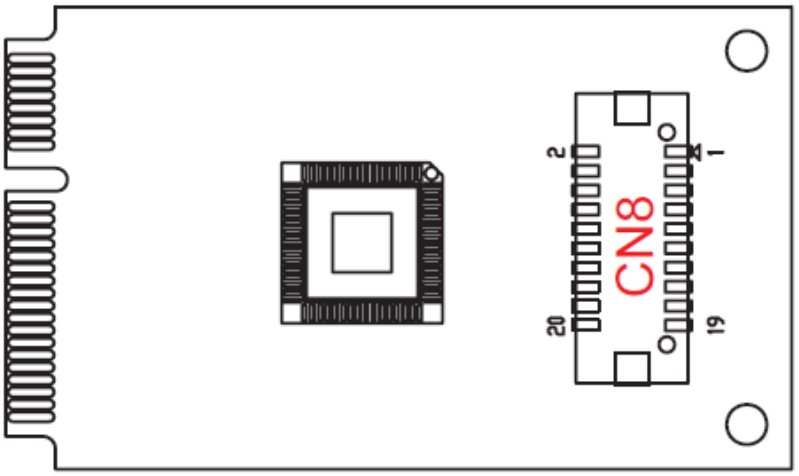
Step 15 Confirm if driver is installed

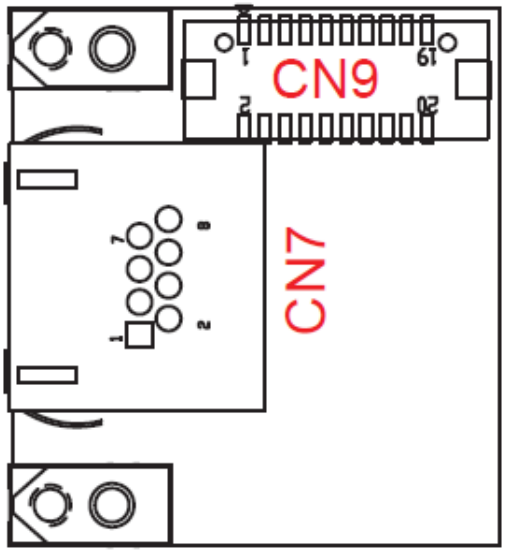
1. Start “Computer Management” program
2. Go to the route: *My Computer → Manage → Device Manager → Network adapters*
3. You would find driver name: Intel® 82583V Gigabit Network Connection
4. Device is ready to be used



Appendix

❑ Pin Assignments





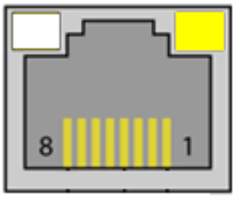
Board Side Pin Assignments

Wire to Board Connector (CN8、CN9)

Pin	Description	Pin	Description
1	BI_DA+	2	BI_DD+
3	BI_DA-	4	BI_DD-
5	GND	6	GND
7	BI_DB+	8	+1.8V
9	BI_DB-	10	N/C
11	GND	12	N/C
13	BI_DC+	14	Link100
15	BI_DC-	16	Link1000
17	GND	18	Active
19	N/C	20	Link

Device Side Pin Assignments

Ethernet Connector (CN7)



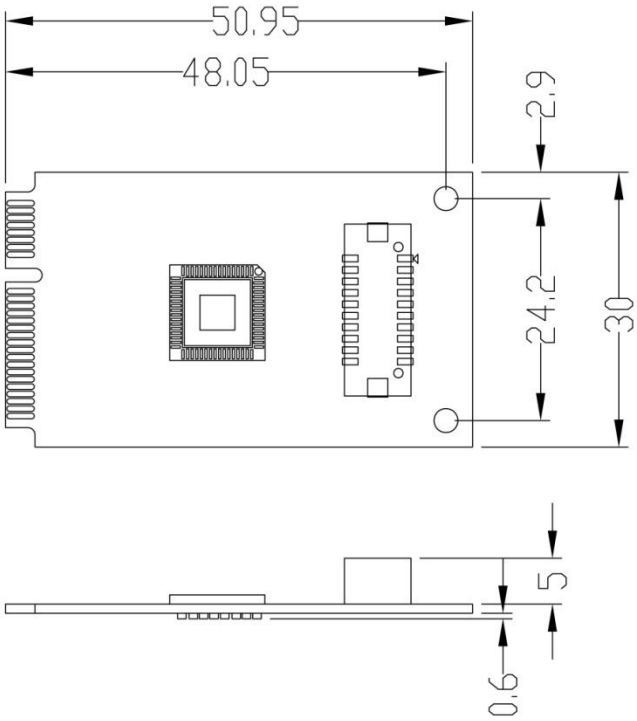
Pin	Description
1	BI_DA+
2	BI_DA-
3	BI_DB+
4	BI_DC+
5	BI_DC-
6	BI_DB-
7	BI_DD+
8	BI_DD-

❑ Technical Reference

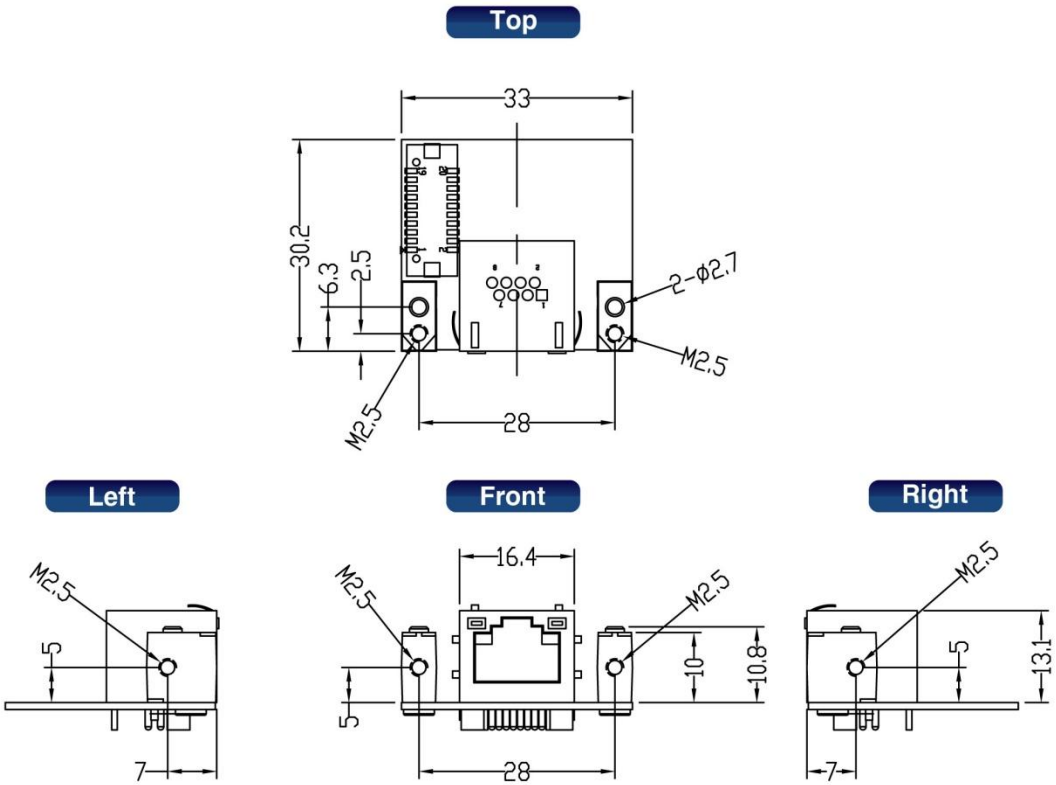
MEC-LAN-M001 Specifications

General	
PCI-Express Revision	PCI-Express Base Specification Rev 1.1
PCI-Express Electromechanical Revision	PCI-Express Mini Card Electromechanical Rev. 1.1
Hardware	
Controllers	Intel 82583V Gigabit Ethernet
Bus	Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps
Interface (Connector)	
Ethernet 10/100/1000	1 (RJ45)
Technology	
Standards	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3ab for 1000BaseT(X), IEEE 802.3z for 1000BaseX
Flow Control	IEEE 802.3x flow control
Driver Support	
Operating Systems	Win 2003, Win XP, Win Vista, Win 7, Win 8
Power Requirement	
Power Consumption	250mA@3.3V
Dimensions	
Width x Length (mm)	30.00 x 50.95
Environmental Limits	
Operating Temperature	-20°C ~ 70°C
Storage Temperature	-20°C ~ 85°C
Humidity	5% ~ 95%
Regulatory Approvals	
EMC	CE, FCC
EMI	EN 55022, EN61000-3-2, EN61000-3-3, FCC Part 15 Subpart B Class B
EMS	En 55024, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11
Reliability	
MBTF	2,872,737 hr
Warranty	3 years

MEC-LAN-M001 Dimensions



MEC-LAN-M001 Daughter Board Dimensions



❑ Product Warranty Statement

Cervoz products are warranted to be free from manufacturing defects in materials and workmanship starting from the date of delivery. The actual warranty period of Cervoz products vary with product categories. Complete details can be found here:
http://www.cervoz.com/support/warranty.php
During the warranty period, we shall, at our option, either repair or replace any product that proves to be defective under normal operation.

Defects, malfunctions, or failures of the warranted product caused by damage resulting from natural disasters (such as by lightening, flood, earthquake, etc.), environmental and atmospheric disturbances, other external forces such as power line disturbances, plugging the board in under power, or incorrect cabling, and damage caused by misuse, abuse, and unauthorized alteration or repair, and the product in question is either software, or an expendable item (such as a fuse, battery, etc.), are not warranted.

RMA Instruction

- Customers must fill in Cervoz Return Merchandise Authorization (RMA) Request Form and obtain a RMA number prior to returning a defective product to Cervoz for service.
- Customers must collect all the information about the problems encountered and note anything abnormal and describe the problems on the “Cervoz Service Form” for the RMA number application process.
- Charges may be incurred for certain repairs. Cervoz will charge for repairs to products whose warranty period has expired. Cervoz will also charge for repairs to products if the damage resulted from acts of God, environmental or atmospheric disturbances, or other external forces through misuse, abuse, or unauthorized alteration or repair. If charges will be incurred for a repair, Cervoz lists all charges, and will wait for customer’s approval before performing the repair.
- Customers agree to insure the product or assume the risk of loss or damage during transit, to prepay shipping charges, and to use the original shipping container or equivalent.
- Customers can send back faulty products with or without accessories (manuals, cable, etc.) and any components from the card. If the components were suspected as part of the problems, please note clearly. Otherwise, Cervoz is not responsible for the devices/parts.
- Repaired items will be shipped along with a "Repair Report" detailing the findings and actions taken.

Limitation of Liability

Cervoz’ liability arising out of the manufacture, sale, or supplying of the product and its use, whether based on warranty, contract, negligence, product liability, or otherwise, shall not exceed the original selling price of the product. The remedies provided herein are the customer’s sole and exclusive remedies. In no event shall Cervoz be liable for direct, indirect, special or consequential damages whether based on contract of any other legal theory.